SOIL conservation

U.S. Department of Agriculture / Soil Conservation Service / May 1976

From the Administrator

Lessons on the Land

Some say it was like the thirties.

They saw dust storms again and covered fences and roadside ditches filled to the top with the fine, powdery soil.

But they didn't see, as we did in the thirties, families packing up and moving. Nor did they see some of the things we saw in the fifties, when ranchers in Texas were grinding up mesquite and mixing in molasses to feed their cattle.

We're having prolonged drought in parts of the Great Plains again and it may not be over yet. But we're nowhere near the thirties . . . there's no new Dust Bowl by a long shot. The conservation practices on the land reflect more than 40 years of research, application, and hard work.

During the spring blow season, much of the Great Plains was patterned with conservation practices to control wind erosion. Stubble mulching . . . minimum tillage . . . stripcropping . . . cover crops . . . all made their marks.

Rangeland also was in better condition than in the 1930's and 1950's. Not only are better management techniques being applied, but many more ranchers have a drought plan. When rainfall is low, many are prepared to sell their cattle or put them on feed . . . and there is less overgrazing of pasture and rangeland.

Still, by the end of March, we found nearly 5.5 million acres in the Great Plains had been damaged by wind erosion since last November. More than 9 out of 10 of these acres were cropland. Another 1.9 million acres of crops or cover were destroyed.

By the end of March, 3 million acres in the Great Plains had escaped damage with the temporary protection of emergency tillage.

We'd like to have seen less soil damage. But the situation is far from a disaster. For almost every area, there is a conservation practice that can hold the soil in place. Still, this dry spell proves, more than ever, that some lands should never have been put under the plow in the Great Plains.

We've learned a lot of lessons from the land —too often the hard way. But we notice that after each drought, thanks to steadily expanding conservation practices and the Great Plains Conservation Program, the land is in better condition than it was after the last one. And that's encouraging.

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Secretary of Agriculture

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Soil Conservation Service

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Contents

2 From the Administrator

4 A New Town Plans for Quality of Life
Anne Zack

9 Hitting the Conservation Trail
John L. McLain and Wallace Peterson

12 Conservation Benefits at Blackwater
Don Schuhart and Shirley Foster Fields

15 Arkansas Wildlife Unlimited
Susie Harris

16 SCS Sponsors Workshop for Federal Women's Program Coordinators
Anette M. Jenkins

18 Trout and Title X
Toy N. Campbell, Jr.

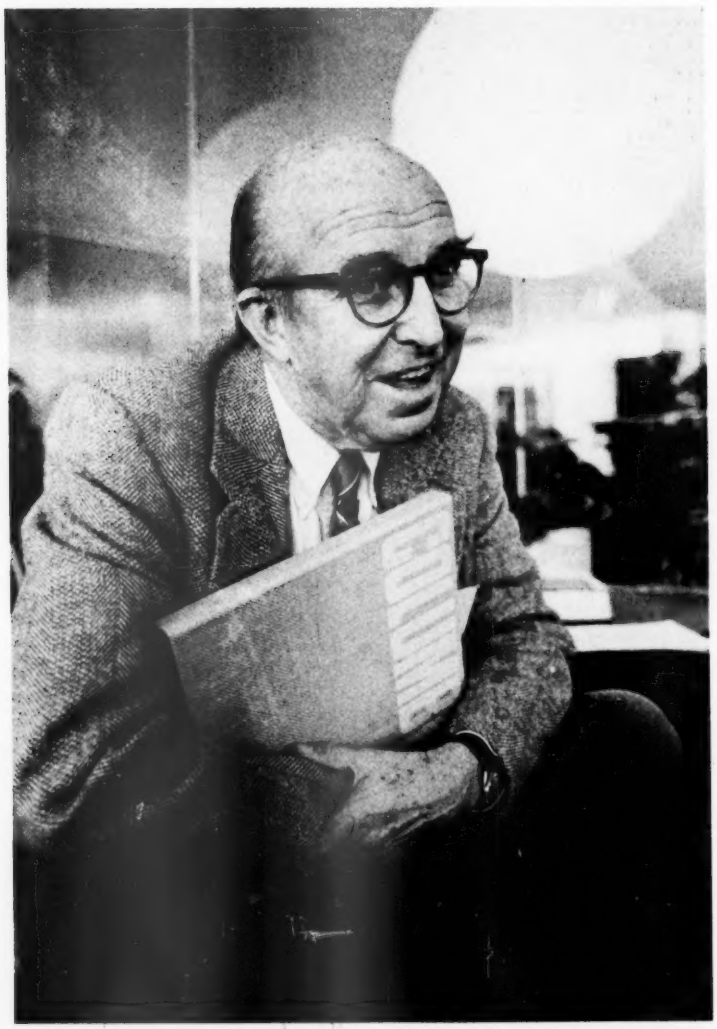
21 Achieving a Goal of Water Supply
Harold D. Heise and Ronald W. Hayes

23 Soil Surveys

23 Meetings

COVER: Canada geese take off at Blackwater National Wildlife Refuge on the eastern shore of Maryland. The wetland habitat at the refuge has been enhanced for migratory birds with a wildlife conservation plan begun 25 years ago by the U.S. Department of the Interior in cooperation with the Soil Conservation Service. (See story on page 13.)

A New Town Plans For Quality of Life



James W. Rouse talks of conservation planning at Columbia, Maryland. (Photos by H. E. Alexander, Jr.)

Columbia, Maryland, has received national recognition as a successful new community—a rare achievement in recent years.

One reason for its success is the extensive research and planning which went into it, including studies not only of physical design but of social needs.

Located halfway between Baltimore and Washington, D.C., Columbia began in 1962 when The Rouse Company, headed by James W. Rouse, began researching and acquiring land. The company used natural resource data, including a soil survey and topographic survey, in its planning.

From the start of construction in 1966, The Rouse Company has worked closely with the Howard Soil Conservation District (SCD) to control erosion and sedimentation. In 1974, the district named Rouse cooperator of the year.

Today, Columbia is a city of 40,000 people, with a projected population of more than 100,000. Houses and facilities are concentrated in neighborhoods and villages separated by lakes, parks, and open space. Seven of the 10 planned villages have been completed, and 10 elementary schools, 3 middle schools, and 2 high schools are in operation.

The city continues to attract planners from across the United States and around the world.

In an interview with Anne Zack of the Information Division, Soil Conservation Service, Rouse and Robert V. Young, manager of development services of The Rouse Company, discuss Columbia, now in its 10th year of operation.

Was the physical environment the main factor in designing Columbia?

Rouse: We went down two planning tracks at the same time—physical and social. Our social work group consisted of 14 people: a psychiatrist, a sociologist, a city manager, a commissioner of recreation, a woman concerned with the status of women, an educator, and others.

We paid them to meet with our architects and planners every 2 weeks for 6 months to discuss such questions as: What are the sources of loneliness and delinquency? Could the design of the city further achievement and fulfillment among the residents? How could a health system or an educational system work best?

We didn't want them to design a utopia—or design anything or even agree on anything. We just wanted to be better informed so we could design a city that would meet people's social as well as physical needs.

Did the social needs conflict with the environmental needs?

Rouse: The topography dictated that we concentrate development in some places and retain open space in others, such as in the stream valleys, but this met the social needs, too. We wanted a community based on fully developed neighborhoods and villages separated by open space.

Were the three lakes in Columbia built simply as a drawing card?

Rouse: Water for recreation and esthetics certainly attracts buyers, but the lakes are also very important sediment control points.

Young: About 2 years ago, Marshall Augustine [1] said there had been a dramatic reduction in the silt load coming to the main Patuxent River. He thought most of it was due to the sediment control specifications here in Columbia and in Howard County.

Rouse: Sediment control is not free. We've had to dredge two of the lakes twice, and we're going to have to do it some more.

Looking back on how you planned Columbia with conservation and the environment in mind, has it been worth the costs?

Rouse: The environmental quality of Columbia has been a very good investment and has more than paid back any cost incurred in it. Staying away from the stream valleys and respecting the grades has consolidated development where it was more economical.

The lakes have produced values that justify their cost. We've also spent a lot of money

[1] Former SCS soil conservationist and consultant to Maryland Water Resources Administration.

planting more than 350,000 trees and shrubs along the highways and public areas.

But you have to look at the economics of this development as a whole. You can't justify the cost of a lake, for example, in terms of what happens along its edges. You've got to judge it in terms of community-wide enjoyment and as a sediment trap. And you hope you are building a physical environment that will attract people for housing and businesses so you can market land at a profit.

In 1970, the Howard County Planning Commission did a study comparing the cost of developing the whole county to Columbia's standards versus the way the county had been developing before Columbia. What were the results of that study?

Rouse: The study showed that developing to Columbia's standards from 1970 to 1985 would save about $200 million in sewer, water, and streets alone. It would save $1 million a year in maintaining streets because the concentrated development would mean shorter streets.

It would also save the state $1 million a year in school transportation. In 1974 alone Columbia saved the state $430,000 because the concentrated housing and facilities allow most of our kids to walk to school.

How did you first come in contact with the Howard Soil Conservation District?

Rouse: In 1963, we acquired this land farm by farm, and until we started construction in 1966, we were the largest farming operation in Maryland. Our farm manager made the first contact with the Howard SCD and with SCS, and he brought forth our early agreements with them.

Young: In 1966, Mr. Rouse signed an agreement as a district cooperator. We don't have one written conservation plan for all of Columbia. Instead, we have a specific plan for each area as we develop it.

Rouse chats with Jack Helm, SCS district conservationist for Howard County, Robert V. Young, and Bob Ziehm, district manager, Howard Soil Conservation District.

Statewide sediment control started in Howard County. How did that affect you?

Young: In May of 1970, a sediment control act was passed for the Patuxent River valley, which includes all of Columbia, and a year later the law became statewide. It requires us to submit sediment control plans for approval by the soil conservation district.

The Howard SCD was the first to have a district manager to get developers and builders to go along with sediment control. And the relationship between the Howard SCD and The Rouse Company was great.

It's the same now for storm water management. In the last year we've built rooftop storage and retention ponds even where they're not dictated by law because we think storm water management is good and someday we may be required to provide it.

We can't write down standard specifications and guidelines for everything. Lots of times I'll have to call the district conservationist. Without him and the Howard SCD, I don't know what we'd do.

In 1969, Hittman Associates [2] researched sediment control in Columbia for the Maryland Department of Water Resources, USDA, and The Rouse Company. What were the results?

Young: At that time we really didn't have any criteria to go by in controlling erosion and sedimentation—it was all guesswork. So the Hittman group monitored every bit of sediment that ran off Columbia's Village of Long Reach, which covers about 800 acres.

A lot of background information came from those tests. From that we developed criteria for standards and specifications for erosion control in urban areas.

Then we tried different ways to control erosion. We tried shavings, wood chips, excelsior, asphalt—anything we could put down. We would stake these areas out and measure the runoff.

Are you still testing conservation measures?

Young: Yes. As we start developing near a stream valley, for example, we pay an engineering agency to study how to control erosion there. Incidentally, the vegetation we plant is recommended by the agency that does the study.

Once some people complained that the streambanks were eroding, so we showed them slides we had made before, during, and after development. One showed where the soil had been eaten out from under a stump, and the people said, "There! See what happens when you develop?" But that slide was made before we had done one bit of development! Before and after photos like those are valuable for all types of construction.

There are some changes in the stream valleys, of course, but they are minor—not to any disadvantage to the people or certainly not to the environment.

Do you follow up on conservation measures?

Young: Every year we walk the length of every stream valley with people from the Maryland Department of Water Resources. They recommend improvements for us to make.

Last year they made hardly any recommendations. We had constructed wiers in a stream to slow it down, and they commented that the water running off the wiers sounded like a rippling brook.

What is the cost of conservation measures in Columbia?

Young: In 1969, it was a third of 1 percent of each lot's value, and for the number of lots anticipated in developing Columbia, it represented an investment of hundreds of thousands of dollars.

The cost per lot has increased to half of 1 percent, but we are controlling erosion a little differently now. In 1969, we would put in a sediment basin, the district conservationist would approve it, and we would control the silt off an entire area. We were removing silt that had washed in from some builders' sites all the time.

Now we put in smaller stone filter dikes, and the builders must control the silt on their own sites. In other words, if a builder buys 10 lots, he has to keep the silt on those 10 lots. It's a little more expensive per lot.

Rouse: The average cost of a lot today is $15,000, and half of 1 percent is about $75.

[2] Engineering firm headquartered in Columbia, Maryland.

Do The Rouse Company and the people in Columbia agree on the virtues of your conservation planning?

Rouse: Our people and the people who live here never agree fully on anything. We have a lot of professional people–a lot of bright people—in Columbia. Hardly an issue can arise that there isn't some group of experts–and I really mean experts—in the field.

Last year, for example, a group of environmentalists criticized our land maintenance program in the Columbia Association, which maintains the public areas. This group proposed specific changes to make maintenance more sensitive to wildlife and nature.

We adopted their proposals, such as letting the grass grow higher, just when the recession caused a severe budget crunch in the Columbia Association. The new standards looked like an outrageous effort to save money, and they came in for a lot of criticism.

Young: The controversy quieted down in time, but some of it was amusing. One homeowner said, "Wildlife in Columbia is fantastic! I have a lot of snakes, groundhogs . . ."

Did you try to preserve trees on house lots?

Young: At first we did. We made the builders save every tree possible, especially choice trees like white oak, red oak, and tulip-poplar. But later many of the mature trees died because some of the houses were too close to the trees. The homeowners were furious because they had to take the dead trees down. We ended up in a joint effort with the builders to remove the dead trees.

Now if a tree has to be welled or otherwise specially protected, we recommend that the builder go ahead and take it down. If a tree marked to be saved is near a foundation or where they're digging a footing, I go out and decide whether it should come down.

And we replant 10 trees to every one we take down.

Aside from snakes and groundhogs, did you have any provisions for wildlife in your original plans for Columbia?

Rouse: Al Geis, an ornithologist with the U.S. Fish and Wildlife Service at the Patuxent Wildlife Research Center, helped us out on that. At his request, we set aside 50 acres in the Middle Patuxent River valley for the breeding of the woodcock.

Young: Also, as construction moved along, Geis pointed out how minor flaws in construction or certain ornamental design features can attract undesirable birds, like starlings and pigeons. For instance, latticework was used to hide air conditioning equipment on some houses, but this attracts pigeons.

Rouse: From the earliest days of Columbia, systematic counts have been made to record the change in birdlife as the area changed from rural to urban. Now the establishment of the Urban Wildlife Research Center, a private organization in Howard County, has resulted in more extensive studies.

Is it possible for a private company to do the Columbia type of new town development now?

Rouse: I think it would be difficult. I think there should be—not a subsidy—but some sort of federal assistance to make large development possible, such as loans or grants to counties so they could hire the natural resource planners to do what we've done here. It's probably got to have enabling financing.

Under today's system without direct federal assistance, is there any way communities can start planning according to the land and do some of the things you've done here?

Rouse: Sure they could. A growing county could create a community development corporation, use the resources it has in sewer and water extension, and create a new community —easily.

Planning and zoning are looked upon as negative forces to constrain things rather than as initiating forces to make things happen. Planners want to deal with present problems. That problem-oriented focus is what limits our use of the planning power. I say, project what you want the region to be in 20 years and then guide your development to create it. ♦

Hitting the Conservation Trail

by John L. McLain and Wallace Peterson
Range conservationist, SCS, and
county extension agent, Cooperative Extension Service,
Minden, Nevada

On the conservation trail ride, Author McLain discusses native plants and their use for wildlife, watershed protection, and domestic grazing.

If you enjoy singing around a campfire at night and taking a weekend course on horseback, join—or make up—a conservation trail ride.

Last fall, 25 riders joined us for just such a ride into the Sierra Nevada Mountains. We carefully selected the trail for its beauty and plant life as well as for the environmental issues it presented, such as acid mine waste from the abandoned Leviathan Mine.

The first conservation trail ride in the area, it was sponsored by the Douglas County Extension Service, the Carson Valley Conservation District in Nevada, and the Alpine Resource Conservation District in California.

Specialists on the ride came from the University of Nevada, the Nevada Division of Forestry, USDA's Extension Service, Forest Service, and the Soil Conservation Service.

The trip, which would take us past the 8,000-foot mark to Leviathan Peak and then to Monitor Pass, started on a Saturday morning at the base of the mountains last fall.

We made many stops along the leisurely 6- to 7-mile ride that day, with the first one at the intersection of two creeks. One of the creeks flowed with clear water, while the other was brown with sulphuric acid from the Leviathan Mine. This mine had been worked extensively until 1962, and is now in private hands and no longer mined.

The stop included testing the water and then led into a discussion of the effect of sulphur on wildlife and livestock.

As we climbed to Leviathan Peak, we stopped to watch Forester Dale Saunders, with the Nevada Division of Forestry, take core samples from trees and explain how the age of the trees is determined. Saunders also demonstrated instruments measuring tree height.

Most of the land we viewed was managed by the Forest Service, and Gary Sayer of the Forest Service discussed national forest lands. One purpose of trail rides like this one, he noted, is to raise the aware-

ness of the people who live close to national resources and may take them for granted.

That night, we camped at the Big Springs campground atop Monitor Pass. After a hearty steak dinner, we gathered around the fire. To an accordian accompaniment and three guitars, we got through a series of polkas and cowboy songs. We even made it well into the thirtieth verse of "Little Joe the Wrangler," a heroic tale of life in the old West.

The next morning, fortified with a breakfast of steak, eggs, bacon, and pancakes, we watched a demonstration on the fine art of packing a mule. Doug Reynolds, a horse specialist with the University, also demonstrated how to make hobbles and feed bags out of gunny sacks.

On the way back, we demonstrated how to determine crop and plant yields by throwing a wire circle at random into the brush, clipping all the vegetation within the wire circle, and then multiplying the yield by using an established formula. We also studied plant species important to both wildlife and livestock.

Who went on our trip? Dal Byington, a Carson Valley rancher and chairman of the Carson Walker Resource Conservation and Development Council . . . Peggy Benson, a teacher and wife of a cattle rancher . . . John Hintze, a Gardnerville electrical supply dealer . . . Marianne Rosenlund, a Finnish exchange student.

The group was enthusiastic about the trail ride and we're planning another one for this fall with 65 riders to Bureau of Land Management lands. The slide show that developed from the trip has also been popular.

"It's an educational pro-

From far left, Doug Reynolds demonstrates how to pack animals for the trail ride. Author Peterson teaches the weekend students techniques for measuring woodland. Dallas Byington, a conservation district supervisor, demonstrates his talents for barbecuing steaks. Young riders find the going a challenge in heavily wooded areas.

gram," said Peggy Benson. "I think if you could get more people who aren't farm-related to understand the problems, it'd be better."

"I went with a very negative attitude when they told me I'd need a notebook and all that," said Don Hellwinkel of Gardnerville. "But it was interesting. They told me about plants I never realized existed. And it's good to see what the different branches of government are doing . . . We'd go again if we get the chance."

One of the "reluctant riders" was Tom Wixon, managing editor of The Record Courier in Minden.

He was soon enthusiastic and later featured two-and-a-half pages on the trip in his paper.

"Trail rides occur throughout the West each year, but few draw on the various agency specialists for assistance," he wrote.

"A conservation trail ride provides the public the opportunity to meet agency representatives on a personal basis, discuss conservation of natural resources, and the future of public lands. An outing of this type also gives resource specialists the opportunity to share their opinion with others and become better acquainted." ♦

Conservation Benefits at Blackwater

by Don Schuhart and Shirley Foster Fields
Information Division, SCS, Washington, D.C.

Above, Canada geese land in a field at Blackwater National Wildlife Refuge. At left, an SCS team at work at the refuge. SCS designed and supervised the installation of dikes and water control structures at the refuge. (Photos by Don Schuhart.)

When spring winds blow, the wild geese go. By the light of the moon and the morning sun, they take to the sky by the thousands. They know the day. They know the hour that is precisely right for the start of their great far north migration.

It's a long, long flight from Maryland's Eastern Shore to the birds' ancestral nesting grounds near James Bay, Ontario, Canada. From late September to mid-March, they enjoy winter rest and feeding at the Blackwater National Wildlife Refuge, near Cambridge, Maryland.

A few decades ago, Blackwater's Canada geese numbered no more than 5,000. Today, thanks to nearby modern farming and to the conservation management of Blackwater's rich, tidal marshlands, there are 100,000 wild geese during the peak November season.

Wildlife Conservation

A wildlife conservation plan begun 25 years ago by the U.S. Department of the Interior in cooperation with the Soil Conservation Service enhances the migratory birds' wetland habitat. SCS designed and super-

vised the installation of dikes and water control structures to keep brackish tidal water off adjoining croplands of corn, soybeans, and sorghum. In the fall, the birds feed on the crop residues, and in winter the same fields are flooded for wading and feeding on the tender shoots and roots of aquatic plants.

Similar conservation plans developed by Interior's Fish and Wildlife Service with SCS assistance are in effect at 171 wildlife refuges throughout the United States.

Snow Geese and Whistling Swans

Wetlands are the best lands, not only for Canada geese, but for many other water birds. Snow geese and whistling swans, thousands of mallards, black ducks, and blue-winged teal also seek the Blackwater refuge for food and rest. The American bald eagle, still an endangered species, is safe here, and so are the osprey, the egret, and the heron.

The Challenge

A tremendous challenge awaits goslings born of Canada geese this spring near the Arctic. Only a few months after their birth, they, too, will take to the skies with their parents. The older, stronger birds will lead them. They will take their direction from the stars, the sun, and the winds, and the great flocks will return to favored wintering grounds on the mainland of North America. ♦

An abundant food supply awaits migratory waterfowl at the refuge. In the winter, fields are flooded for wading and for feeding on aquatic plants.

Arkansas Wildlife Unlimited

by Susie Harris
SCS, Little Rock, Arkansas

Wildlife can expect extra opportunities in the "Land of Opportunity" this year, the result of "Arkansas Wildlife Unlimited."

The new project is geared to help cooperators with soil conservation districts in the state establish wildlife food plots on their land.

Sponsoring the project are the Arkansas Association of Conservation Districts and the Razorback Chapter of the Soil Conservation Society of America (SCSA).

"We hope that, as a result of this project, the cooperators will have a better appreciation for the role of wildlife on their lands," said Dr. Roy A. Grizzell, Jr., SCS biologist in Little Rock.

Members of the Razorback Chapter of SCS helped package 300 sacks of seed to plant in quarter-acre food plots. The 10-pound packages were then made available through the conservation district to cooperators at $5 each.

The sacks contained 2½ pounds of browntop millet, 3 pounds of red ripper cowpeas, 1 pound of sunflower, and 3½ pounds of annual lespedeza seeds.

The seeds will produce choice food plants for bobwhite quail, dove, deer, wild turkey, rabbit, and many species of song birds.

The seeds were selected not only for their high nutritional value, but also for the long time span in which they will provide food. Seeds produced from these plants resist decay after falling from the plant. "They will provide food right into the worst part of winter when most other foods are scarce," Dr. Grizzell said.

Each package contains information on the seeds and their wildlife benefits. SCS district conservationists in the state also provide assistance to the cooperators in selecting sites for wildlife plantings. ♦

"Arkansas Wildlife Unlimited" was launched last February in Dr. Grizzell's home, where he, his wife Virginia, and SCSA members—and retired SCSers—Aubrey Hough and Bill Johnson packaged 10-pound sacks of seed for wildlife plantings.

SCS Sponsors Workshop for Federal Women's Program Coordinators

by Anette M. Jenkins
Personnel Division, SCS, Washington, D.C.

"You have the right to be treated with dignity and respect. You have the right to say 'no.' You have the right to make mistakes."

That's the basis of *assertiveness* as taught last March to SCS's Federal Women's Program coordinators from 48 state offices and all four regional technical service centers at a 4-day workshop in Arlington, Virginia.

Assertiveness training teaches that you respect the rights of others as well as defending your own, and that you accept the responsibility that goes along with your rights.

Dr. Roland H. Tanck of George Washington University emphasized that assertiveness training does not make people obnoxious or bossy, does not destroy courtesy, and does not teach "one upsmanship." It does enable people to express their ideas and opinions, to make requests and refuse requests according to what is right for them, and to defend their own rights in a way that doesn't offend others.

Both George Washington University and the Trans-Century Corporation, a private management consultant firm in Washington, D.C., taught the course and made other presentations at the workshop as well.

Miss Jenkins is the Federal Women's Program coordinator for all of SCS.

Staff members from George Washington University's Continuing Education for Women Program lectured on motivating others and the kind of motivation that leads to success; value systems and how to set priorities; communicating effectively; and managing time efficiently—a real bonus to the coordinators, who perform their duties in the Federal Women's Program in addition to their regular SCS jobs.

Jinx Melia, vice president of Trans - Century Corporation, led that firm's presentation She said barriers in the minds of some women keep them in low-paying jobs in business and government. These mental barriers are the need for male approval, fear of being called "unfeminine," acceptance of double standards, obeying authority without question, fear of taking risks, and a low concept of their own value.

Ms. Melia and other consultants from Trans-Century then discussed ways women can deal with these barriers to advancement, including how to listen to others objectively, how to make decisions, assertiveness, and how to raise other people's awareness of women's problems without conflict.

Other parts of the workshop were geared specifically to SCS. Top-level Washington and regional technical service center officials participated in a panel discussion on opportunities for women in SCS and in an evaluation and summary of the entire workshop.

SCS's Personnel Division representatives explained the Upward Mobility Program, which allows employees to move into positions of greater responsibility, and discussed classification and qualification standards, interviewing techniques, recruitment of women, the career development and promotion program, grievance appeals, and employee development.

R. M. Davis, SCS administrator, pledged his personal commitment to the Federal Women's Program. He spoke of challenges ahead in soil and water conservation that call for the best that both women and men have to offer the Service in terms of technical know-how, innovativeness, and ability to deal with and motivate people. Davis also suggested ways women and men can help each other find and merit higher careers.

The coordinators didn't just sit and listen throughout the workshop. Both on and off the program they discussed common problems and shared solutions. In fact, one coordinator said, "Although the outside speakers and the men added to the workshop, I learned the most from the other women."

The Federal Women's Program was established in 1967 to enhance the employment

and advancement of women. In 1969, it was integrated by Executive order into the overall Federal Equal Employment Opportunity Program.

Under the Federal Equal Employment Opportunity Program, agency heads are responsible for finding out what can be done to advance the status of women and minorities in their particular agency, for making specific plans for improvement, and for seeing that those plans are put into effect.

Each agency has a Federal Women's Program coordinator who acts as the agency's contact point, source of information, and adviser to the head of the agency on matters involving the employment of women.

In SCS, the state offices, regional technical service centers, the Washington office, and the Caribbean Area have Federal Women's Program coordinators as well.

These women are involved in all phases of the Federal Women's Program, including recruiting qualified women; counseling women about careers; encouraging their offices to develop upward mobility jobs; and promoting continued education for employees.

SCS sponsored the March workshop to help coordinators better understand their role in the Equal Employment Opportunity Program and to help them learn skills to function more effectively. ♦

Gertrude Dunlap, Federal Women's Program coordinator in Pennsylvania, gets into a discussion at the SCS workshop in March.

Trout and Title X

by Toy N. Campbell, Jr.
District conservationist, SCS, Jefferson, North Carolina

One hundred years ago, fishermen in Ashe County, North Carolina, had little need for the paraphernalia of rod, reel, line, and lure. They could throw a rock and hit one, trout were so plentiful in these mountain streams.

Today, the few natural trout left share streams with old cars, rusting refrigerators, tires, plastic milk jugs, and garbage.

But the New River Soil and Water Conservation District has started a program to reclaim Ashe County's streams for trout—and trout fishermen.

Six men, all dedicated fishermen, are spending their days improving the quality of the county's streams to insure a suitable habitat for the fish.

The trout stream improvement work, a project measure of the New River Valley RC&D area, is funded through Title X, the Job Opportunities Program authorized under the Emergency Jobs and Unemployment Assistance Act of 1974. Money—in this case, $75,000—is made available through SCS to conservation districts in areas of high unemployment. The districts hire the unemployed in conservation work.

In Ashe County, Ferris Crumpton of Creston is the supervisor of the trout stream improvement project. Crumpton decides what needs to be done with each stream—where to build aeration ponds, walkthroughs, and log or rock jetties.

Working with him are Joe Ashley of Warrensville, assistant supervisor; Scott Greer of Lansing; Ned Fowler of Chestnut Hill; Dillard Weaver of Grassy Creek; and Jeff Ray of Jefferson.

They are easily recognized by their blue coveralls, hip-length boots, white hard hats emblazoned with a decal of a rainbow trout, and by their shovels.

A log jetty is one method of stabilizing eroding streambanks.

The crew placed rocks in V-shaped formations to create small pools and water aeration—and better habitat for trout.

So far, they've improved streams for trout on about 27 miles of the 130 miles of public trout waters in Ashe County. They haul away trash—in a truck which also bears the trout decal, create riffle areas, and protect the streambanks from eroding.

One of the most important innovations the workers provide for sport fishermen and landowners resolves a major argument between the two—that fishermen climb over and tear down fences to reach trout streams.

The crew members put in cattle-impeding woven wire fences. Landowners give their permission and provide materials, and the crew members install, at intervals, a Y-shaped cattle proof walk-through. They drive in posts and extend the wire fence to a walk-through. Cattle can't get through the narrow entry, and a little barbed wire across the bottom stops calves. Lean fishermen can walk through easily.

The crewmen painted the posts red so fishermen can easily spot the walk-throughs. Now, when a fisherman can't find a readily accessible way through to the streambank, he can walk a bit farther until he sees a painted post.

In some of the more out-of-the-way places in the county, trout may reproduce naturally, but most of the streams are stocked by the North Carolina Wildlife Resources Commission.

Money from fishing licenses and trout stamps goes to the state fish hatcheries for stocking. When landowners permit streams on their land to be designated for open fishing, the state stocks the streams, usually with rainbow trout. Brown and brook trout are also stocked.

Fishing season in North Carolina is now 11 months out of the year. Only March is "closed."

Ashley, a forestry graduate of North Carolina State, is becoming an authority on trout since the project began last September.

"We pick our places for putting in rocks," he said, "and then we make a small "V" across the creek, letting the swift water go through the point of the "V." We create a turbulence and, in effect, improve the oxygen supply for the trout. They need a great

James Houck, supervisor with the New River Soil and Water Conservation District, demonstrates a cattle-proof walk-through. The V-shaped passageways provide fishermen easy access to streams.

deal of oxygen to live. Dumping sewage effluent into a creek can supply too many nutrients and result in shortages of oxygen that can kill trout."

In one part of a stream, Crumpton points out soil erosion and siltation.

"This needs some type of vegetative cover. Our job is to try to control the flooding, stop the washing away of good topsoil, and provide more pools and shelter for trout," Crumpton said.

On one bank, cut by floodwater, the crew stabilized it by wiring three logs to the bank and filling in behind the logs with rocks. This channels the water away from the bank, prevents erosion, and creates a swift current on the opposite bank to form an eddy deep enough for trout to find shelter.

"It's filthy work—at least the cleanup part of it," Ashley commented. "And on fall and winter mornings, it gets mighty cold in these creeks. But it's good to do what we're doing."

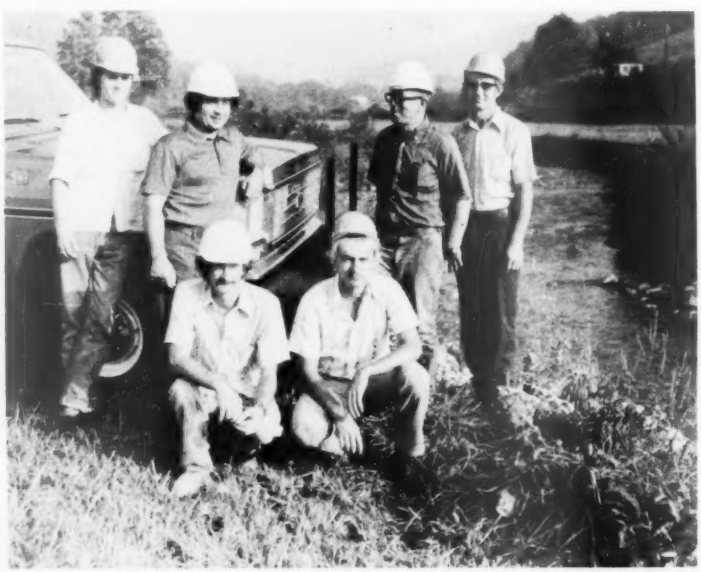
"If this program had been started 20 years ago, we'd have more trout today," Greer said. "It takes a long time and we've got only 1 year to do it."

Ned Fowler, who studied drama at the North Carolina School of the Arts in Winston-Salem and who is now finding drama in reclaiming Ashe County's streams, said:

"The most important part of this project is to get the people of the county to realize that when they pollute their streams, they are killing trout besides making these mountain areas unlovely.

"Once it's clean, it has to be kept clean . . . and only Ashe County citizens can do that." ♦

The Trout Stream Improvement Project crew near one of their projects —Beaver Creek.



Achieving a Goal Of Water Supply

by Harold D. Heise and Ronald W. Hayes
District conservationist and project engineer, SCS, El Dorado, Kansas

A flood in a watershed is spectacular and grabs the headlines. But a drought can be equally damaging to a community from the standpoint of municipal, domestic, and livestock water supply.

In the mid-1950's, a severe and prolonged drought hit Butler County in south central Kansas. Stockmen hauled water for their livestock and the city of Leon brought water in by railroad tank car.

From that day on, farmers and ranchers became vigorous promoters of the watershed program in Butler County. Their major objectives: to increase the stream flow for livestock and provide a water supply in reservoirs.

Today, residents have achieved the goal of water supply development through watershed projects over much of this area in the Flint Hills.

The Butler County Conservation District has promoted and sponsored the seven watershed districts in the county. With technical assistance from SCS under the Watershed Protection and Flood Prevention Act, each district developed watershed land treatment programs.

The seven projects call for 120 floodwater retarding dams to be constructed in the county. These reservoirs in the upper tributaries of the various watersheds have permanent pools of water that average about 30 surface acres and have an average depth of about 15 feet. They will strategically locate millions of gallons of unpolluted water in the county.

The Little Walnut-Hickory, Rock Creek, and Muddy Creek Watershed projects, with 64 reservoirs in the heart of the Flint Hills grassland area, have been completed. They have protected flood plain lands and properties from several intense rainstorms. In 1973, damage reduction in Rock Creek and Little Walnut - Hickory watersheds amounted to $383,-300.

The projects also have provided multiple benefits to the communities. No longer do ranchers need to haul water to their livestock. Good water is available in flowing streams and clear reservoirs. During a drought in the late 1960's when Leon's water supply became critically low, valves were opened on upstream reservoirs of the Little Walnut-Hickory Project and water flowed to the city. The village of Latham in Rock Creek watershed has been able to abandon its wells and procure water from a floodwater retarding reservoir a short distance above that community.

Water for agricultural and domestic purposes, as well as wildlife and recreation, is having a stabilizing effect on the communities of Butler County. The environment has been improved and life is more pleasant for citizens of the area.♦

A boat dock installation in the Little Walnut-Hickory Watershed is one of the recreational benefits of the watershed program in Butler County.

Conservation Districts Participate In Environmental Education Week

What happens during "Environmental Education Week"?

Last fall, two states—Oklahoma and Pennsylvania—had governors sign proclamations to promote conservation education.

During the proclaimed week, activities included television programs, mailing of teachers' kits, and participation by students.

In Pennsylvania, for instance, Mrs. Eleanor Bennett, environmental adviser of the State Department of Education, noted that the week was to create an awareness that would result in a continuing conservation education program. More than 500 orders for teachers' kits were received during the week. Most of the schools with outdoor education areas had special programs, and in the Harrisburg area, a special environmental education program for teachers and students was held at the state-owned William Penn Museum.

In Oklahoma, a television program in Oklahoma City focused on conservation education. Four panelists discussed the role of SCS and conservation districts in conservation education, the need for this type of education, how the university can prepare teachers to play a part in it, and how classroom teachers can use the outdoor education concept.

Participants included a university professor, classroom teacher, conservation education specialist for the Pontotoc County Conservation District, and a representative from the State Department of Education.

At a school in Norman, Oklahoma, students displayed various activities that occur in outdoor classrooms. Sixth-grade students led a tour of the school grounds to show what they had done and planned to do to improve the grounds. The Cleveland County Conservation District sponsored the program. ♦

'Conservation Choices' Theme of SCSA Meeting

"Critical Conservation Choices: A Bicentennial Look" will be the theme of the 31st annual meeting of the Soil Conservation Society of America on August 1-4 in Minneapolis, Minnesota.

General sessions will cover land and water conservation through the nation's history as well as present methods of increasing food and fiber production.

Technical sessions will focus on specific challenges in using the nation's land and water resources to meet these needs.

William Larson, a soil scientist with the Agricultural Research Service, St. Paul, is the program chairman for the meeting. F. Maynard Scilley, state soil scientist with the Soil Conservation Service in Minnesota, is in charge of local arrangements. ♦

New publications

Recommendations on Prime Lands. *Prepared at the Seminar on the Retention of Prime Lands, July 16–17, 1975, sponsored by the USDA Committee on Land Use. 54 pp.*

These recommendations are from the Seminar on the Retention of Prime Lands held last summer at Airlie House, Virginia. Eighty participants from across the nation gathered to consider the questions and issues raised by the continuing conversion of prime food, fiber, and timber producing lands to other uses. The seminar was sponsored by the USDA Committee on Land Use. The goal of the committee is to begin widespread public input and debate on the prime land issue. Reports developed by five work groups at the seminar are included, along with findings, conclusions, and recommendations. Single copies are available from the Information Division, Soil Conservation Service, Washington, D.C. 20250.

Soil surveys

Kentucky
Ballard and McCracken Counties. By Maurice E. Humphrey. 1976. Soil Conservation Service in cooperation with the Kentucky Agricultural Experiment Station. 81 pp., illus.; maps.

Nebraska
Pawnee County. By Howard E. Sautter. 1976. Soil Conservation Service in cooperation with University of Nebraska Conservation and Survey Division. 74 pp., illus.; maps.

Pennsylvania
Venango County. By Norman J. Churchill. 1975. Soil Conservation Service in cooperation with the Pennsylvania State University, College of Agriculture, and the Pennsylvania Department of Environmental Resources, State Conservation Commission. 86 pp., illus.; maps.

South Carolina
Lexington County. By Carl B. Lawrence. 1976. Soil Conservation Service in cooperation with South Carolina Agricultural Experiment Station and South Carolina Land Resources Conservation Commission. 85 pp., illus.; maps.

Meetings

June

1–3 *"The Role of Phosphorus in Agriculture" Symposium, Muscle Shoals, Ala.*

3–4 *National Meeting of Keep America Beautiful, Inc., Dearborn, Mich.*

6–10 *American Society of Landscape Architects, San Diego, Calif.*

7–9 *American Plywood Association, Portland, Oreg.*

13–18 *Eighty-fifth Annual General Federation of Women's Clubs Convention, Philadelphia, Pa.*

20–25 *American Water Works Association Ninety-sixth Annual Conference, New Orleans, La.*

21–23 *Garden Club of America Sixty-third Annual Meeting, Minneapolis, Minn.*

26–30 *National Association of Counties, Salt Lake City, Utah*

26–July 1 *American Seed Trade Association, Inc., Convention, Los Angeles, Calif.*

27–29 *American Society of Farm Managers and Rural Appraisers Summer Meeting, Elizabethtown, Pa.*

27–30 *Sixty-ninth Annual Meeting of American Society of Agricultural Engineers, Lincoln, Nebr.*

27–30 *Twenty-third National Watershed Congress, Biloxi, Miss.*

27–July 1 *Air Pollution Control Association Sixty-ninth Annual Conference & Exhibition, Portland, Oreg.*

27–July 1 *Fortieth Annual Educational Conference of National Environmental Health Association, Nashville, Tenn.*

July

10–14 *American Association of Nurserymen, Inc., Boston, Mass.*

11–15 *American Society of Landscape Architects, San Diego, Calif.*

14–17 *Izaak Walton League, Baltimore, Md.*

26–30 *Symposium on Urban Flood Plain Management, Lexington, Ky.*

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